GARDNER

Engine Forum

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Gardner Engine Forum Philosophy

"The aims of the Forum are to promote and foster interest in all Gardner engines"

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Cover Picture

Gardner 8L3
Picture supplied by the owner:
Bill Granoukos of
Black Creek, Canada

Chairman's Jottings

May I take this opportunity to wish you all a Happy New Year and may your engines burn clean.

You may or may not have heard that our Membership Secretary, John Humble, has recently had an operation as he has suffered a brain haemorrhage. He is making good progress and we wish him a speedy recover to good health.

Welcome to all our new members. We hope you enjoy the magazine and we look forward to receiving articles that will be of interest to fellow members. You will read that there is a short technical article written by Spanner and we hope that this will become a regular feature.

We have been given a set of engine books which are listed below. This collection is by no means complete and we would welcome any donations if you have any spare.

These books are available for reference from myself and very often a phone call will resolve the problem. Please feel free to ring and I will try and help.

Instruction Manuals 6L3B / 6LX / 6HLX / 6LXB / 6HLXB

Spare Parts Catalogues LW / L3 Auto Type / LW Marine Series

Aside from Gardner matters, we took the opportunity to see the QM2 come into Southampton water for the first time on Boxing Day. What a sight! Pity she could not have been built in the UK. We caught the Red Funnel Isle of Wight Ferry to Cowes to see her moving down the Solent in the mist and fog – made a nice change from TV.

Just a reminder the AGM is on the 3rd April at MIRA on the A5 at Nuneaton 2.30pm and we hope to see you there.

Regards

Colin Pattin

Chairman
Gardner Engine Forum

Continuing our transcript of:

Diesel Maintenance
T. H. Parkinson, AMIAE

Chapter 2
Planning Repair Schedules

Time & Mileage Factors; Goods and Passenger, and Small and Large Fleet Variations; Essential Records: Repair Personnel and its Training

Whatever the size of the fleet, systematic repair intervals must be adopted if engine reliability is to be attained. The policy of running until something happens, rarely pays. It is certain too, that if this method is followed, apart from the trouble developing, with the consequent expense, the failure will probably occur at a time when the vehicle is required to earn revenue.

In planning maintenance schedules from instruction books, operators must appreciate that attention to detail is an essential of success. The basis of any sound maintenance schedule is regular inspection. Practical application of this principle to the engine unit means frequent examination for loose nuts and bolts, sump fastenings, engine mountings, controls, fuel and oil pipe fixings. At longer intervals, but still with equal regularity, filter attention, oil change, injector changes and the minor pump adjustments must be carried out, while valve assemblies, pistons and bearings will follow in still more widely space sequence.

Successful maintenance is progressive, and it requires little thought to appreciate that the neglect of small jobs will shorten the intervals between major adjustments. Difficulty undoubtedly arises where variable conditions of operation complicate the transposing of the necessary intervals accurately to the mileages outlined in the instruction books. Nothing is more puzzling at first sight than attempting to define why a particular type of engine will run 100,000 miles between major overhauls, yet an identical unit on a different class of work cannot exceed 60,000 miles for the same repair outlay. Any sound method of reducing varying conditions to a common standard of comparison would simplify accurate maintenance schedule forecasting. The chief difficulty lies in the general and accepted practice of using mileage as a factor of mechanical wear between a long-distance bus over 10,000 miles at 15mph, average speed and a similar mileage city bus at 9mph are obvious. These variations are also present in transport vehicles

on tipping work as against long-distance haulage. In marine practice and stationary engine use, working life of a unit is transposed to a time factor, usually defined as 'hour life', but the working conditions in these fields allow of no comparison with the variations of say, goods vehicle usage. Operators are, therefore, left without an alternative to mileage when assessing repair intervals.

Manufacturers' instruction books detailing mileage intervals for repair attention are based on average working, and they are useful as a guide in planning a maintenance schedule to meet particular conditions; the tabulated mileage intervals here given are a summary of the recommendations of various engine manufacturers.

Component	AEC	Gardner	Leyland
Fuel Filter	1,000	1/3,000	1,000
Oil Filter	5,000	1,000	5,000
Tappets	5,000	5/8,000	2/5,000
Valves	20,000	15,000	20,000
Pistons	25,000	25,000	25,000
General Overhaul	70/100,000	100,000	70/100,000

In applying these mileage intervals to schedules to meet local conditions, the operator's knowledge of his class of work is the controlling factor. As a simple illustration of this principle the following case may be cited. A city passenger fleet equipped with fluid flywheel transmission on certain heavy-peaked traffic routes had their flywheels topped up on the recommended 1,000 miles basis. Gland leakage was common, and replacements were heavy. Examination revealed traffic stops in excess of average conditions, as well as certain driving abuses such as hanging on to high gears with consequent flywheel slip, these factors being jointly responsible for additional heat and loss of fluid; a shortening of the interval for topping up provided an effective cure. This illustration directs attention to two points (1) the importance of knowledge of operation, (2) the necessity of finding 'cause' rather than attempting to deal with 'effect'.

On goods vehicles, owing to load variations, it is not easy to find a common factor of comparison and if fleets are occupied on varying types of work, classification into groups is necessary to enable an efficient repair schedule to be worked. In amplifying this point it should not be difficult to group vehicles on short haulage as distinct from the doing long distance work.

In arriving at comparisons of passenger vehicle operation the problem is less difficult. This type of vehicle operates under known conditions such as recorded scheduled speeds and stops per mile. Whilst it is obvious that these two factors are variable in different undertakings, comparisons can be made if the speed and stops are reduced to a common factor; thus by multiplying average speed in mph by the number of stops per mile, a figure of stops per hour is available, and forms a fairly accurate basis of comparison when applied to varying conditions.

Centre city operation is general recognised as representing the most arduous conditions of passenger vehicle operation as regards wear and tear. In services of this character seven stops per mile with average schedule speed of 9mph are regular practice. Alternatively a less densely populated city might average five stops per mile with schedule speed increased to 10mph.

In considering these two simple cases it will be recognised that, although viewed casually, the conditions outlined are similar, but the former class of work, subjects the vehicle to approximately 20% greater wear and tear. This illustrates that a maintenance schedule based on rigid mileage for both types would not produce the economical working desired.

In considering the variations in maintenance methods between small fleet users and the larger operators, certain other points arise. The former cannot as a rule justify the carrying of spare engines. His unit repair will probably be governed primarily by the time available. At first sight when major repairs are contemplated, the in situ overhaul is attractive. In a later chapter certain disadvantages of this method are outlined.

This manual is confined to engine maintenance, but the close relation of any balance maintenance schedule to other chassis work will be apparent. The importance of regular inspection has been stressed, and it will be obvious that these inspections must deal with other features in addition to engines.

In small fleets, particularly in local work, weekly or fortnightly inspections might form the foundation. The knowledge of the particular working conditions will indicate the components that are overstressed, and define the actual time or mileage intervals. Vehicles engaged on building or contractors' transport work, for instance, would probably call for the examination at each inspection of such items as spring bolts and engine

suspension fixings, owing to the arduous nature of operation on the type of road surfaces associate with this class of work.

Actual working conditions of the vehicles must have a definite relationship to the type of maintenance scheme of schedule operated. Provided these conditions are known, any transposition of manufacturers mileage recommendations to the intervals adopted will not be difficult. A decision whether mileage or time intervals should be used depends to a large extent on the regularity of mileage run. If variations occur week by week, time intervals would not be satisfactory. On the other hand, long distance trunk service haulage or passenger work show little variation month by month, and time intervals could be adopted.

It might be borne in mind in dealing with these points that time intervals are easier to check and require less office work than mileage intervals. For instance, changing lubricating oil on a mileage interval would necessitate checking the vehicle mileage of individual machines, and warning the maintenance staff of the period at which the work should be carried out. Alternatively, changing lubricant say once every month reduces it to vehicle "so and so", due for attention on "such and such" a day each month. In any case it will be apparent that whatever system is adopted some form of record of work done must be part of the maintenance schedule.

Human nature being what it is, the final choice of scheme adopted will not function without period checks. Fleet engineers know the importance of this aspect, and the small fleet owner will recognise that his organisation cannot differ from that of the large fleet in this respect. It is a fallacy to suppose that records to be reliable mean elaborate and extensive office work. Simple systems in use today which are sufficiently flexible to be applicable to small or large fleets. Summed up, the requirements are:-

1. Mileage record
2. Fuel and lubricating oil consumption
3. Vehicle log giving brief particulars of repair intervals

In the case of No. 1, a vertical or horizontal graph posted weekly, is a permanent and visible method of mileage recording. Utilising a system of coloured stars at the appropriate mileage interval for "docks", oil changes and unit changes, it provides a quick assessment of vehicle history, and forms an admirable method of forecasting repair and dock programmes. A simple card index for each vehicle serves for No. 2, the card recording

mileage, fuel and lubricant consumption. The weekly fuel mpg and monthly lubricating oil mpg form a sound guide to engine condition. For No. 3, a folder for each vehicle containing particulars of major repairs and unit changes represents a compact and simple system of records.

It is the practice for sub-divisions of large fleets operating from different depots to control their own domestic system of records on such items as injectors, tappets and inspections. As these are in many cases operated on time intervals, numbered charts representing vehicles, with appropriate columns for time intervals, are marked as each operation is completed, by a coloured star. The regularity of maintenance procedure or the over-running beyond the agreed time or mileage intervals can thus be controlled by periodic and independent checks.

The foregoing forms a sound basis of office check. In practice this by itself is insufficient to portray the whole mechanical story. It is usual, therefore, to carry out a short road test prior to the estimating of probable repair work. The duration of this test is brief, and the mechanical condition of the vehicle is soon judged. Coupled with the recorded statistics it gives a pretty accurate picture of the work required.

In the matter of repair personnel the views here outlined are naturally applicable only to normal conditions. The small fleet user employing a limited number of mechanics is always at some disadvantage in comparison with the organisation behind the large fleets. The latter as a rule have sufficient flow of work to justify specialist operations, and as a general rule they work to an established maintenance schedule which lends itself to schemes of training. Small fleets are usually mixed and include a number of petrol units, so that a different type of vehicle is probably being handled at each complete cycle of inspection; further, where a limited number of vehicles are operated the mechanic often acts as a spare driver, which to some extent controls the class of repair work possible.

The small fleet operator's first requirement is repair personnel possessing all-round knowledge and adaptability. A combination of sound fitting experience, working knowledge of vehicle electrical components, and some test ability are not as a general rule, found in employable labour readily available. There are, however, many men of this type in the industry and it is not difficult to appreciate their value in small fleet maintenance; in any change-over to oil engine maintenance they are readily adaptable, and it will pay the owner to see that they have access to correct principles of

procedure. Indeed, a short course at the vehicle manufacturer's service department, and some instruction at a fuel pump service station, is essential to produce satisfactory results.

Chassis instruction imparts knowledge in the location of auxiliaries, maintenance procedure on filters, injector removal and replacement, and the routine adjustments of tappets, etc. This encourages the necessary confidence and removes the feeling of doubt associated with new departures. Instruction on fuel injection equipment is not intended to equip the trainee with knowledge to enable him to carry out the more specialised parts of this work, as small fleets will never have a sufficient volume of reconditioning to keep him skilled.

Fuel equipment instruction, therefore, should be confined to injector cleaning and maintenance, and the use of the apparatus necessary to set injector pressures. This equipment, incidentally is not expensive and it should be regarded as essential in garages in which oil engine servicing is carried out, no matter how small the fleet. Injection pump service stations, by their extensive experience, have acquired comprehensive knowledge of injection equipment maintenance, which can only be approached by the largest repair organisation. The small operator will save time and money by utilising their facilities if serious trouble with injection equipment develops.

The large fleets naturally have the flow of repair work to justify specialist operatives. In many cases their maintenance methods are sufficiently progressive to make possible the grading of the appropriate labour for each operation. Inspections co-incident with chassis lubrication in certain cases, usually on a time basis, for the ground-work. The periods of these inspections naturally vary, and are governed by conditions. Fortnightly intervals are a common average. Lubricating oil changes are carried out at alternate or monthly inspections. Fuel filters, injector changes and tappet adjustment can be carried out on inspection cycles, but are more often completed at a time or mileage interval independent of routine pit inspections. This cycle continues until the period for major repairs is due. The next chapter includes an outline of the type of repair procedure suggested, thus, after a succession of cycles of inspections and docks the need for unit overhaul or change arises. It is in this particular field that the specialising of the larger operators simplifies personnel training.

Engine repairs under these conditions are sub-divided into groups such as dismantling, cylinders and pistons, cylinder heads and manifolds, bearing

operations, reconditioning of auxiliaries and final assembly. It is general practice to class each of these sections as skilled work, and fitters are employed. A study of these various operations naturally simplifies any change-over in labour, as the actual dismantling and assembly are the only operations which can be said to vary from petrol practice. Usually assemblers, after a short spell in the dismantling section are able to familiarise themselves with any variation in layout which might at first sight interfere with speedy assembly.

Pistons and cylinder groups do not call for any alteration of method from petrol practice, bearings usually have modified clearances, but the principles of reconditioning are identical with those of the petrol unit. In the cylinder head group it has been found desirable to employ good type fitters. The increased pressures, and on certain engines the use of aluminium heads, calls for some ability with file and flat scraper, although the installation of a surface grinder in the large establishments reduces the amount of this fitting required. Apart from pump maintenance which is dealt with in another chapter, assembly appears to offer the only departure from petrol practice. Any close examination of the vehicle builder's engine unit will leave little doubt that the variations are more imaginary than real. Summarised therefore, training of personnel need not be considered as a difficult operation when changing over from petrol to oil engines. The major difference is in pump injection equipment, and certain auxiliaries, such as exhausters. In the case of small fleet operators, specialist's facilities are always available to deal with these components.

It will be recognised that in successfully undertaking specialist work, an outlay in special equipment is unavoidable. However, unless the flow of work is present, the return on the equipment is not forthcoming; furthermore the employee is not kept in practice. In the larger fleets it is usually possible to merge these operations with some existing section; for instance, the section for fuel injection equipment maintenance is added to the carburettor section in many undertakings. Breaking down a lengthy operation to graded stages is accepted practice in training personnel and little difficulty has been experienced in producing satisfactory results in any departure from what might be termed accepted petrol repair practice.

Editor's Note – This extract has been taken directly from the book printed in 1942 and the written word, grammar and punctuation has changed quite significantly over the past 60 years.

"Gardner Snippets" by an ex-employee

It is generally known that the Gardner 4LK was selected to power the war-time Midget submarines because of its reliability and economy. Engine cooling was done by a portion of the hull being double skinned but this didn't work too well as air bubbles formed on the outer skin which effectively created insulation. This was overcome by reducing the volume of the hull, to increase the speed in the water, which cured the problem.

A further contract for 4LKs was offered after the war, but it was stipulated that unified threads must be adopted. Gardner turned this down as worldwide inter-changeability of spares would be affected. A new type of underwater cargo boat powered by a 4LW was designed probably to carry ball-races from Sweden to the UK. This was being done by three specially built high-speed launches carrying four tons each – but was a very hazardous operation.

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The Bosch fuel injection pump was adopted for the L2 series, later to be made by CAV under licence. All these pumps were stripped down on receipt and the elements were calibrated to maintain uniformity – which was just as well because sometimes, incorrect elements were fitted. The delivery valves were also removed and checked to ensure that each valve opened at the correct place.

During the war it was considered that the fuel injection pump was a vital part of the engine and if CAV's factory was bombed, engine production would cease – so Gardner designed and made their own fuel pump. Gardner had always made their own injectors so this didn't pose much of a problem. The injector nozzles were all made in 'the works', the holes being drilled with twist-drills of less than 0.012ins diameter and after drilling, each nozzle was put on a rig to check the time for a given quantity of fuel through the nozzle.

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The big end bearings on all con-rods were weighed on a specially adapted scale. The pistons were also weighed – a heavy set of rods being put with a light set of pistons.

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Dynamos and later alternators were engine mounted, the driving shaft being driven by a chain from the crankshaft. The standard driving ratio used an 18-tooth sprocket but 15-teeth were available and even 12-teeth to increase alternator speed. Hugh Gardner used to say that the latter were almost square. The early L2 engines had single timing chains and later Duplex chains, but the LW went to Triplex because more items had to be driven. Even this was border-line for some of the bigger alternators and power steering pumps.

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The Gardner family probably pioneered diesel engines in motor cars in this country. To quieten the engine down, 2% of isopropylnitrate was added to the diesel fuel, but it was too expensive for commercial use. Gardner probably instigated the search for low sulphur fuel as it was found that cylinder liners were suffering erosion quicker than wear and Gardner were always on at the oil companies to reduce the sulphur content. It could be as high as 1.5% but the works insisted on it being not more than 0.5%. It is now considerably less that this.

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Engine lubricating oil used in the Works was supplied by the Dalton Company of Belper in Derby, because, like Garnder, Daltons was a family firm whose main interest was to produce a first-class product. After the first run on test, the oil was drained into drums and returned to Daltons for refining. This doesn't necessarily mean just taking out all the unwanted particles, but also to remove any acid in the oil which was done by a special hot clay process. A lot of paraffin was used in the factory for washing parts and a "still" was used to clean the product. A log had to be kept of all work done and Customs would make random checks – but no hooch was ever found.

Whilst on the subject of lube oil, the oil filter elements were wrapped in fairly thick high quality felt for the first run on test, mainly because the early filters were just one 40 mesh gauze sandwiched between two 80 mesh gauzes for support. The advent of paper filters probably put a stop to this because they were so much more efficient.

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LW crank cases were available in cast iron or aluminium. Before the war Elektron was used to reduce vehicle weight but they suffered from corrosion by water between the cylinder blocks. The LK, of course, was only available in Electron. Sumps were also made in this material and woe betide any inexperienced welder trying to weld up a crack (Elektron is a magnesium alloy).

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From the early days Gardner made their own jointing material, comprising a mug of asbestos powder with shellac added and stirred up with a stick to the consistency of porridge. When asbestos became a dirty word, Gardner adopted Wellseal.

"Spanner in the Works"

I have been asked what sort of oils we use in a Gardner. The answer is only one sort and that is mono-grade oil with detergent added, straight 30 SAE or 20 SAE in the winter if using hand start. The oil specification should be 2 MIL L 2104B.

The oils used in today's car diesel engines is a multi-grade and designed to protect a highly stressed engine, whereas a Gardner Engine is not highly stressed and using modern oils in it could cause the engine to glaze the piston bores.

A chap asked me last week, why his Gardner would not start easily in the winter. We went through the correct oils and I later thought that he might have a problem with starter cables being too small or too long, giving a voltage drop to the starter.

Signed Spanner

Anson Museum

The Anson Museum is located on the site of the old Anson Colliery, Poynton, Cheshire. It is the result of Les Cawley and Geoff Challinor's years of hard work collecting and restoring engines. Opened to the public in 1989, the museum has an impressive, operational, collection of engines and some driven machinery. Some of the renovated engines were built as early as 1886.

The main building houses a large collection of engines, many maintained in running order, ranging from very early Crossley gas engines through to more modern diesels. The collection aims to cover the history of the internal combustion engine and although there are many outstanding exhibits, there are still gaps in the collection waiting to be filled. The Anson Museum is noted as being the largest single collection in Britain (and probably Europe) that is open to the public.

July 2004 will see the museum hosting a commemorative display of Gardner engines and exhibits – a room dedicated to Gardner is sure to draw enthusiasts from near and far. Hopefully donations from this will ensure that the much needed funding to extend the museum.

GARDNER COMMEMORATIVE EXHIBITION

To mark the 75th Anniversary of the Gardner L2 engine,
a summer of exciting events is planned.

Visit our website : www.enginemuseum.org
(or ring 01625 874426 to check on details and dates)

Amongst the special events planned are:

Gala opening of the exhibition - July 2004
Gardner Trucks & Vehicles - August 2004
Gardner Stationary Engine Rally 18/19th September 2004

Road test: ERF C32 and Leyland Marathon
Reproduced with kind permission of
Commercial Motor Magazine

History at Work

Could 1980s wagons with less than 200hp on tap have any hope of earning their keep in the 21st Century? We tried a Leyland Marathon and an ERF C32 which go as well as show.

At this time of year (December 2003), Commercial Motor steps back from the world of Euro-4 and electronics for a look at how it used to be. After last year's trip back eight decades, this time we're focusing on two British classics from the late seventies and early eighties. Although semi-retired, both trucks are still ready and able to earn their keep when required.

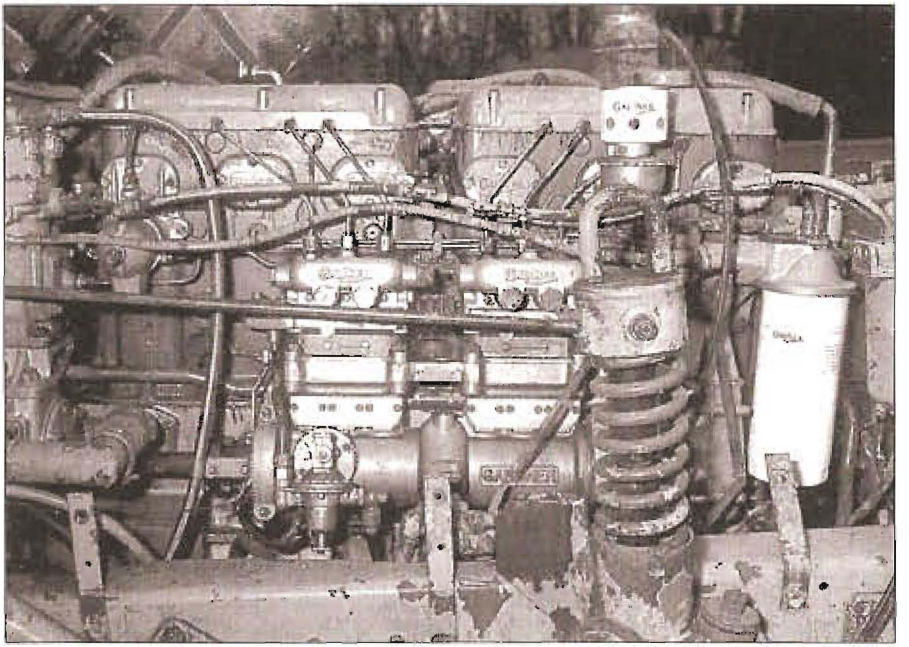
The two trucks tested represent an era when British truck manufacturing was about to face a challenge that was eventually to defeat it. The Leyland Marathon was essentially a stop-gap product, designed to keep the brand competitive with the spacious foreigners that were becoming a threat. ERF's SMC-clad C-Series was one step in an evolutionary trend that didn't really disappear until some time after the Cheshire manufacturer was bought by MAN.

Although 7 years separate our two test subjects, they are more closely matched than you might think; in fact in some ways the older truck is the more modern!

ERF C32

The 1984 ERF C32 was owned by Fountain Brothers of Stoke Mandeville until 1997. Now owned by Cliff Noble and driven by Tony Bowman, from Surrey's Sendmarsh Tractors, it is used to haul a Gardner stationery engine the size of a Ford Transit around the show circuit. It's appropriate, therefore that the engine cowl hides another Patricroft product – a turbocharged 230hp 6LXCT to be precise.

Access to the cab is a bit tight as the steps are well forward and you have to negotiate the door on the way in. Once aboard, it's obvious which decade spawned the C-Series. The interior is very ....brown ....brown carpet, brown plastic dashboard and the original Isri passenger seat (brown with



The ERF's Gardner ticks over at an earth shaking 450rpm... lovely

grey stripes) all combine to look very eighties. The driver takes his ease on a surprisingly comfortable seat liberated from an agricultural tractor. The large carpeted engine hump has a usefully flat top with a large moulded plastic bin in the gap between the seats at elbow level. Switches on the steering column control the lights, wipers and indicators and there's a long row of warning lights.

A comprehensive set of instruments include a tachograph, a rev counter (with the solid green sector from 1200-1700rom) plus six smaller dials for battery voltage, air pressure (two), oil pressure, water temperature and fuel level. The big Bakelite steering wheel is not adjustable.

This particular C-Series has a sleep cab by Jennings of Crewe, which differs from the genuine ERF sleeper cab in having a slightly lower roofline. The bunk area is fully glazed, with all-round curtains ....and yes of course they're brown. There's a capacious storage box under the passenger end of the bunk and a large glove box.

Starting involves releasing the large manual stop control and turning the key. The Gardner engine starts easily and settles into a tick-over around 450rpm, at which speed it suffers considerably from the shakes. Apart from enlisting long disused muscles to help with the steering, the biggest challenge for drivers de-skilled by modern trucks is the gear change.

The Fuller box (four over four plus a crawler) has a widely spaced but reasonably positive gate with a sliding range-change switch on top of the lever. Selecting the first gear from a standstill involves taking the box by surprise, pushing the lever in as soon as the clutch is depressed.

Smooth progress is initially hindered by the floor-hinge throttle pedal, which has a firm resistance for the first half of its travel, before going over-centre and lightening up. It takes some getting used to, but eventually you manage to work round it. The actual changing was fairly easy to learn; the biggest handicap was being too cautious. The quicker the lever was moved, with a fast declutch in neutral, the easier it was.

Performance comparisons between the two trucks would be invalid as the ERF's Tasker low-loader was loaded to within about 5 tonnes of its 32 tonne gross while the Leyland was hauling an empty trailer. Nevertheless, the ERF's performance on the flat proved surprisingly lively, although the overdrive top ratio was fairly ineffectual on anything resembling a slope. On

the really tough short, sharp slope on the infamous snake at the Chobham proving ground, we well and truly screwed up the first attempt – leaving the last downshift too late, we simply ground to a halt. Fortunately, the crawler allowed a painless restart and on the next attempt, when we changed down a bit sooner, the Gardner dug in and took the climb in its stride.

Back on the flat, reaching a top speed somewhat in excess of the current motorway limit was achieved with relative ease. Thankfully the brakes are strong and progressive and having recently been fully overhauled, the steering was impressively tight and accurate: well up to modern, new truck standards – just heavier.

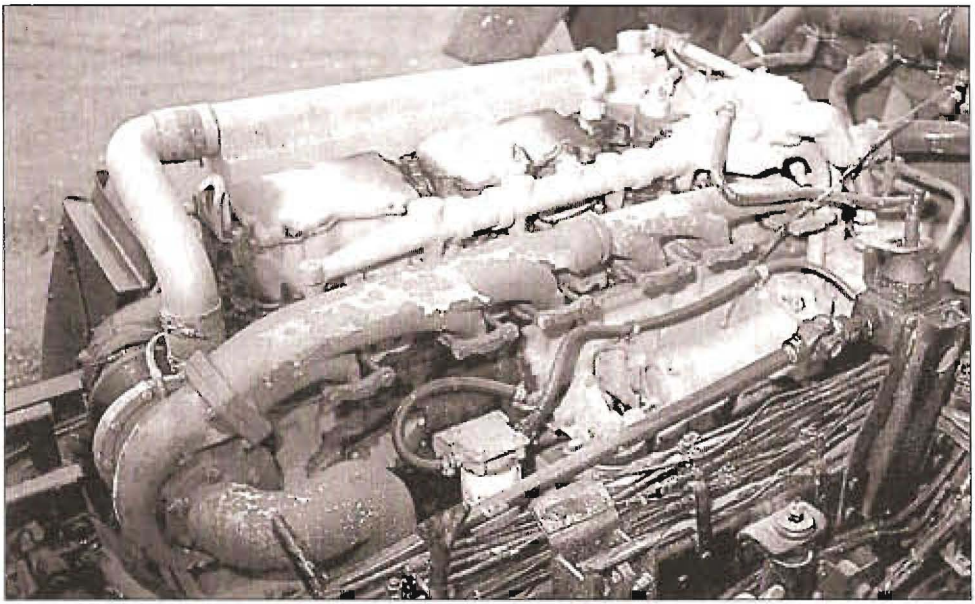
Leyland Marathon

Also a regular on the historic vehicle scene, the Leyland Marathon is used through the year to carry owner John Coake's collection of restored commercials to shows and rallies, often meeting the Sendmarsh team at various events. The Mark One Marathon was used from new on general haulage by JBC Coakes Transport. However, John Coakes now has reduced the size of his operational flee to just a single Volvo four-wheeler and concentrates on his collection of historic wagons, leaving the Marathon mostly to work weekends.

The Marathon started life with a naturally aspirated Cummins 250 under the lid, but was later treated to a 290 from a scrapped Marathon, the extra 40 horses coming from a turbocharger.

The Marathon has essentially the same Motor Panels cab that is found on lesser Leyland products; it's just mounted higher. Thanks to the steps located on the rear end of the front bumper, climbing aboard needs even more care than the ERF. It's obvious that the cab was designed by engineers and not stylists – everything is functional.

The dash comprises a number of individual GRP mouldings attached to a base unit with large, conspicuous machine screws. Instrumentation is similar to the ERF in content, although the rev counter was not working which made it rather difficult to judge gear change points. It has an uncharacteristically small and thin-rimmed steering wheel which was apparently disliked by contemporary drivers for being over-responsive.



The Marathon's 290hp blown Cummins lump feels positively sprightly

There were various sleeper cab options on the Marathon; this example boasts the longest cab which was designed for continental work. It has glazed rear windows but solid side panels. There's something like a foot more interior length which, together with the lower engine hump, makes a big difference to the claustrophobia levels in the cab. The sleeping area has brackets to fit a second bunk, although anyone sleeping downstairs might feel a bit hemmed in. The seats are the originals, which have been recovered in the original type of material and are extremely comfortable.

Once on the move, the Leyland has a much smoother throttle action than the ERF, but this was more than negated by the much looser gear change and steering. We got off to a shaky start after being told that the Marathon's Fuller gear change was the same as the ERF's. After a few false starts, when we found a huge hole between second and third, we finally discovered that third on the Marathon was towards the driver and back, then forward for fourth, unlike the more conventional layout on the ERF. With this sorted we were able to proceed successfully.

Although the Marathon and its unladen York step-frame tandem trailer only weighed in at around 12 tonnes, the performance from the blown Cummins was obviously a class above the Gardner powered ERF. We'd go so far as to say that very few modern artics feel as lively, despite their higher outputs. And it would not be correct to mention that the unlimited Marathon can keep on going.

One genuinely authentic feature of the Marathon was the selection of draughts through the floor and door aperture, which on a longer journey would give that true period feel of one hot leg and one cold one ....those were the days.

Our Verdict – an impossible choice

It was highly enjoyable driving both of these timeless classics and it would be impossible to choose between them. The ideal would have the Leyland's cab and engine with the ERF's chassis, gearbox and dashboard – but as they stand both these old warhorses are still capable of doing the work expected of them.

Readers' Letters

Geoff Wheat
Membership No. 320

As a new member, I was intrigued to read (in the Spring 2002 Newsletter) of the experiments with turbocharged Gardner 6LX's in the 1960's by Bulwark Transport.

You might like to compare this with work by the West Yorkshire Road Car Co., which I found in a history of that bus company ("Northern Rose" by K. A. Jenkinson / Autobus Reviews Publications 1987)

Experiments in 1956 including "the fitting of a supercharged Gardner 5LW engine to one of the LD6G Lodekkas".

The Bristol Lodekka was a double deck bus available only to nationalised bus companies, and the code LD6G indicates that as built, it had a Gardner 6LW. Presumably the company were experimenting to see if the same power could be obtained with a shorter engine, as the company had previously standardised on the 5LW.

On another subject, I was recounting at the recent Nottingham Rally about my first visit to Gardner's works. Having bought my first boat in 1968, the narrow boat "Princess Anne", complete with 2L2 engine, I made my way to the old Campbell Road stores department at Patricroft. At a serving hatch reminiscent of an old fashioned railway booking office, I explained that I wanted some items for 2L2 No. 63298. The figure behind the hatch said "Just a minute", and then, in what must have been about 5 seconds, checked something on the wall by the hatch and then challenged me, saying, "Are you from T & S. Elements?" When I explained that I had just bought a boat and engine, he was punctilious in amending his records with my name and address!

Geoff Wheat

A Goodwin
Membership No. 39

31st September 2003

In reply to Mr. Ormerod's letter in the Autumn '03 issue of the newsletter.

The lifeboat at Land's End has two Gardner 6Xh engines in it. I have managed to find a photograph of the information board in front of the boat which gives all the information required.

My apology for the poor quality of some of the photographs as the weather was foggy and there is also a Perspex screen in front of the engines inside the boat, which makes it a bit awkward for photographs.

Regards
A. Goodwin

Editor's note – unfortunately the photographs are not good enough of the "James and Catherine Macfarlane" lifeboat to reproduce, but we thank Mr. Goodwin for the information.

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